The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

1. (Currently Amended) A metal oxide material comprising ~~at least one~~ a first metallic oxide and a second metallic oxide, wherein the first metallic oxide forms a central nanostructural spine having a linear axis and the second metallic oxide forms terminally attached three-dimensional periodically oriented linear nanostructural rods, the linear axes of the nanostructural rods being oriented substantially non-parallel to the linear axis of the central nanostructural spine of the first metallic oxide ~~wherein said metallic oxide is aligned in a three-dimensionally periodic orientation so as~~ to confer a symmetric nanostructural morphology to ~~said~~ the metal oxide material.
2. (Original) The metal oxide material of claim 1, wherein the symmetric nanostructural morphology has a pre-determined symmetry.
3. (Currently Amended) The metal oxide material of claim 1, wherein the first metallic oxide is selected from the group consisting of ZnO, In_2O_3, and combinations thereof.
4. (Previously Presented) The metal oxide material of claim 1, wherein the symmetric nanostructural morphology is selected from the group consisting of a nanobridge, nanonail, nanoribbon, nanowire, nanowall, nanobrush and combinations thereof.
5. (Original) The metal oxide material of claim 1, wherein the metallic oxide further comprises a dopant material.
6. (Currently Amended) The metal oxide material of claim 5, wherein the dopant ~~materials~~ material is tin.
7. (Canceled)
8. (Currently Amended) The metal oxide material of claim 1, further comprising ~~at least three metallic oxides~~ a third metallic oxide.
9. (Original) The metal oxide material of claim 8, wherein the metallic oxides are selected from the group consisting of ZnO, GeO_2 and In_2O_3.
10. (Original) The metal oxide material of claim 1, with a pre-determined symmetry consisting essentially of 2-fold symmetry, 4-fold symmetry or 6-fold symmetry or combinations thereof.
11. (Currently Amended) The metal oxide material of claim [7] 1, wherein the central nanostructural spine consists essentially of In_2O_3.

12. (Currently Amended) The metal oxide material of claim [7] 1, wherein the second metallic oxide consists essentially of ZnO, GeO_2 or MgO.

13. (Currently Amended) The metal oxide material of claim [7] 1, wherein the central nanostructural spine has a length ranging between about 0.01 and about 100 μm.

14. (Currently Amended) The metal oxide material of claim [7] 1, wherein the central nanostructural spine has a length ranging between about 1 and about 20 μm.

15. (Currently Amended) The metal oxide material of claim [7] 1, wherein the central nanostructural spine has a diameter ranging between about 10 and about 1000 nm.

16. (Currently Amended) The metal oxide material of claim [7] 1, wherein the central nanostructural spine has a diameter ranging between about 50 and about 500 nm.

17. (Currently Amended) The metal oxide material of claim [7] 1, wherein the nanostructural rods comprising the second metallic oxide have a length ranging between about 0.01 and about 100 μm.

18. (Currently Amended) The metal oxide material of claim [7] 1 wherein the nanostructural rods comprising the second metallic oxide have a length ranging between about 0.2 and about 5 μm.

19. (Currently Amended) The metal oxide material of claim [7] 1, wherein the nanostructural rods comprising the second metallic oxide have a diameter ranging between about 10 and about 1000 nm.

20. (Currently Amended) The metal oxide material of claim [7] 1, wherein the nanostructural rods comprising the second metallic oxide have a diameter ranging between about 20 and about 200 nm.

21. (Currently Amended) The metal oxide material of claim [7] 1, wherein the nanostructural rods comprising the second metallic oxide are substantially orthogonal to the linear axis of said central nanostructural spine.

22. (Currently Amended) The metal oxide material of claim [7] 1, wherein the nanostructural rods comprising the second metallic oxide are slanted to the central nanostructural spine so as to form a finite, non-orthogonal angle with the linear axis of said central nanostructural spine.

23. (Currently Amended) The metal oxide material of claim [7] 1, wherein at least one of the metallic oxides further comprises a dopant material.

24. (Original) The metal oxide material of claim 23, wherein the dopant material is tin.

25. (Canceled)
26. (Canceled)
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51. (Canceled)
52. (Canceled)
53. (Canceled)
54. (Canceled)

55. (Previously Presented) A metal oxide material comprising:
a central three-dimensional nanostructure having a linear axis formed from at least one metallic oxide; and
a plurality of three-dimensional nanostructures formed from at least one metallic oxide, wherein a distal end of the plurality of three-dimensional nanostructures is attached to the central three-dimensional nanostructure.

56. (Previously Presented) The metal oxide material of claim 55, wherein the metallic oxide is selected from the group consisting of ZnO, In_2O_3, GeO_2, MgO and combinations thereof.

57. (Previously Presented) The metal oxide material of claim 55, wherein the metallic oxide further comprises a dopant material.

58. (Previously Presented) The metal oxide material of claim 57, wherein the dopant material is selected from the group consisting of tin and germanium.

59. (Previously Presented) The metal oxide material of claim 55, wherein the central three-dimensional nanostructure is formed from In_2O_3 and the plurality of three-dimensional nanostructures is formed from ZnO.

60. (Previously Presented) The metal oxide material of claim 55, wherein the three-dimensional nanostructure has a morphology selected from the group consisting of a nanoribbon, nanowire, nanobelt, nanocrystal, nanowall and combinations thereof.

61. (Previously Presented) The metal oxide material of claim 55, wherein the central three-dimensional nanostructure has a length ranging between about 0.01 and about 100 μm.

62. (Previously Presented) The metal oxide material of claim 55, wherein the central three-dimensional nanostructure has a diameter ranging between about 10 and about 1000 nm.

63. (Previously Presented) The metal oxide material of claim 55, wherein each of the plurality of three-dimensional nanostructures have a length ranging between about 0.01 and about 100 μm.

64. (Previously Presented) The metal oxide material of claim 55, wherein each of the plurality of three-dimensional nanostructures have a diameter ranging between about 10 and about 1000 nm.

65. (Previously Presented) The metal oxide material of claim 55, wherein the plurality of three-dimensional nanostructures are aligned in a direction either perpendicular to the linear axis of the central three-dimensional nanostructure or at a finite non-perpendicular angle.

66. (Previously Presented) The metal oxide material of claim 55 for use in a microelectronic device.

67. (Previously Presented) The metal oxide material of claim 66, wherein the microelectronic device is selected from the group consisting of field emission device, photovoltaic device, optoelectronic device, blue optical device, ultra-violet optical device, transparent conductive film, transparent electronic imaging shielding device, transparent field effect transistor, supercapacitor, fuel cell, nanocomposite, data-storage device, biochemical sensor, chemical sensor, gas sensor, solar cell, photocatalysis device, bulk acoustic waves device, window heating device, and light emitting diode.

68. (Previously Presented) A metal oxide material comprising:
a first metallic oxide in the form of a three-dimensional linear nanostructure; and
at least one second metallic oxide in the form of a three-dimensional linear nanostructure and extending in a lateral direction from the first metallic oxide.

69. (Previously Presented) The metal oxide material of claim 68, wherein the first metallic oxide and the at least one second metallic oxide is selected from the group consisting of ZnO, In_2O_3, GeO_2, MgO and combinations thereof.

70. (Previously Presented) The metal oxide material of claim 68, wherein the metallic oxide further comprises a dopant material.

71. (Previously Presented) The metal oxide material of claim 70, wherein the dopant material is selected from the group consisting of tin and germanium.

72. (Previously Presented) The metal oxide material of claim 68, wherein the three-dimensional linear nanostructure has a morphology selected from the group consisting of a nanobridge, nanonail, nanoribbon, nanowire, nanowall, nanobrush and combinations thereof.

73. (Previously Presented) The metal oxide material of claim 68, wherein the at least one second metallic oxide is aligned in a direction either perpendicular to the first metallic oxide or at a finite non-perpendicular angle.

74. (Previously Presented) The metal oxide material of claim 68 for use in a microelectronic device.

75. (Previously Presented) The metal oxide material of claim 74, wherein the microelectronic device is selected from the group consisting of field emission device, photovoltaic device, optoelectronic device, blue optical device, ultra-violet optical device, transparent conductive film, transparent electronic imaging shielding device, transparent field effect transistor, supercapacitor, fuel cell, nanocomposite, data-storage device, biochemical sensor, chemical sensor, gas sensor, solar cell, photocatalysis device, bulk acoustic waves device, window heating device, and light emitting diode.

76. (Previously Presented) The metal oxide material of claim 68, wherein the first metallic oxide has a length ranging between about 0.01 and about 100 μm.

77. (Previously Presented) The metal oxide material of claim 68, wherein the first metallic oxide has a diameter ranging between about 10 and about 1000 nm.

78. (Previously Presented) The metal oxide material of claim 68, wherein each of the at least one second metallic oxide has a length ranging between about 0.01 and about 100 μm.

79. (Previously Presented) The metal oxide material of claim 68, wherein each of the at least one second metallic oxide has a diameter ranging between about 10 and about 1000 nm.

80. (Previously Presented) A metal oxide material comprising a plurality of three-dimensional nanostructures formed from at least one metallic oxide and interconnected to form a network.

81. (Previously Presented) The metal oxide material of claim 80, wherein the network of the plurality of three-dimensional nanostructures has a pore size ranging from about 200 nm to about 1 μm.

82. (Previously Presented) The metal oxide material of claim 80, wherein each of the plurality of three-dimensional nanostructures are parallel to each other.

83. (Previously Presented) The metal oxide material of claim 80, wherein each of the plurality of three-dimensional nanostructures are arranged in a quasi-hexagonal pattern.

84. (Previously Presented) The metal oxide material of claim 80, wherein each of the plurality of three-dimensional nanostructures form angles that are multiples of about 30°.